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"Amor scribere jussit."

On the pernicious Effects of Mercury, by James Hamilton, M. D. Fellow of the Royal College of Physicians, and Professor of Midwifery in the University of Edinburgh.

AMONG the numerous poisons which have been used for the cure or alleviation of diseases, there are few which possess more active, and of course more dangerous powers than *mercury*. Even the simplest and mildest forms of that mineral exert a most extensive influence over the human frame, and many of its chemical preparations are so deleterious, that in the smallest doses they speedily destroy life.

The late Dr. Parr, in his Medical Dictionary, (Vol. I. page 177,) thus expatiates on the virtues and uses of that mineral. "As a medicine, there is scarcely an indication that mercury cannot supply. There is no more certain and active emetic than the *mercurius vitriolatus*; a more powerful laxative than the *calomel*; a more effectual and steady diaphoretic and stimulant than the *mercurius muriatus*; a more certain emmenagogue than *calomel*; a more effective errhine than the *turpeth mineral*; a more infallible sialagogue than either of its preparations."

Practitioners of the first respectability prescribe on every trifling occasion *calomel*, or the blue pill. Thus, *calomel* is now almost the universal opening medicine recommended for infants and children, and a course of the blue pill (which is one of the mildest preparations of mercury) is advised, without any discrimination, for the cure of trifling irregularities of digestion in grown persons.

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Dr. Falconar of Bath (in a paper inserted in the first volume of the Transactions of the Medical Society of London, dated May, 1809,) has in strong language reprobated this practice, and has pointed out many of the dangerous effects of the indiscriminate use of mercury. His warning voice, however, has not been listened to; for the employment of mercurial medicines has, for several years, become more and more extensive.

But when the effects of mercury upon the human body are accurately investigated and duly considered, it cannot fail to appear, that infinite injury must accrue from its use.

It is the object of the author, in the following pages, to illustrate those propositions; and in doing so, he readily avails himself of the recorded facts and observations of those respectable members of the profession, to whom proper deference is due.

In detailing the changes produced upon the system by preparations of mercury, it is necessary to premise the well known fact, that there are some individuals on whom such medicines, though continued for a considerable length of time, have little or no perceptible influence, unless the activity of their form, or the magnitude of their dose, be calculated to excite immediate effects. For example, whatever the constitution of the person may be, a very few grains of the muriate of mercury given in substance, prove rapidly fatal, and large doses of the submuriate are quickly followed by vomiting and purging. On the other hand, instances of constitutions which are unsusceptible of the influence of the ordinary doses and preparations of mercury, are very few in comparison with those which are affected by the smallest quantity of that mineral.

Preparations of mercury, exhibited either internally or externally for any length of time, increase in general the action of the heart and arteries, and produce salivation, followed by emaciation and debility, with an extremely irritable state of the whole system.

These effects of mercury are expressly mentioned, or virtually admitted, by every author, ancient and

modern, who has directed its use ; and it must appear very extraordinary, that their full influence should have been misunderstood, or at least not sufficiently regarded.

The first effect enumerated, is an increased action of the heart and arteries, that is, a more than usually rapid circulation of the blood through every part of the body. This also occurs in feverish and inflammatory disorders, and in all is accompanied with an augmentation of the animal heat. But in feverish disorders there is neither any apparent change upon the sensible qualities of the blood, nor any unusual flow of the ordinary secretions ; while in inflammatory affections the sensible qualities of the blood are materially altered, and either some of the secretions are furnished in greater abundance, or topical congestions, that is, obstructions in the vessels of particular parts, take place.

Accelerated circulation of the blood, in consequence of the use of mercury, is attended with the most obvious of the circumstances which arise from inflammation. Blood drawn from the arm of the most delicate and debilitated individual, subjected to a course of mercurial medicines, exhibits the same buffy crust with blood drawn from a person labouring under pleurisy, and the secretions from the skin or from the kidneys are greatly increased.

In inflammatory complaints, topical congestions occur more frequently than increase of secretions, while the reverse of this happens where the inordinate action of the heart and arteries is occasioned by the use of mercury.

There is another remarkable difference. In inflammatory diseases, the muscular strength, in many instances, continues unimpaired till towards the termination of the complaint. Thus, every practitioner knows that individuals labouring under pleurisy have walked several miles within a few hours of death. But from the time that the influence of mercury becomes evident, the general strength declines rapidly.

It appears, therefore, that the increased action of the heart and arteries excited by mercurial medicines,

produces not only the same injurious changes upon the body with those arising from inflammation, but also certain effects peculiar to itself. This important fact has been incidentally noticed by numerous authors, although the natural inference to be deduced from it has been very much overlooked. Dr. Carmichael expressly says, "mercury induces a specific fever, different from all others, and attended with an increase of the various secretions."

Reasoning upon the subject, it might be concluded, that if there be an inordinate action of the heart and arteries, attended with an altered state of the blood and with debility, while the increased secretions accompanying this inordinate action have no tendency to allay it, the health must be rapidly undermined; and if there be ulcerations in any part of the body, they must as certainly degenerate into malignant sores, as blistered surfaces or scarifications mortify in cases where the living powers are much exhausted.

Experience has proved the reality of such conclusions, but prejudice and inaccurate observation led many practitioners of deserved reputation to attribute those effects of mercury to other causes, till Mr. Mathias published his valuable remarks on what he terms the mercurial disease. Thus, before Mr. Mathias' publication, the injurious effects of mercury in some syphilitic cases were attributed to the original virus operating on scrofulous, or cancerous, or scorbutic constitutions, or to some complication or anomaly which was inexplicable.

Mr. Mathias has unequivocally shown, that certain dangerous changes upon ulcerations originally syphilitic, and certain derangements of health, occur whenever mercury has been administered in too acrid a form, or in too large a quantity; and his remarks are confirmed by the experience of every practitioner who has, with extensive opportunities of observation, been attentive to the phenomena. He imagines that the action of the mercury in such cases is of a specific or a peculiar nature; it more probably, however, is merely in an inordinate or excessive degree, and in no other respect different from what it is in every case.

It is a well known fact, that exposure to cold, bodily fatigue, and irregularities of diet, particularly indulgence in intoxicating liquors, have aggravated the severity and malignancy of syphilitic ulcerations, whether primary or secondary. But as all those different causes concur only in one respect, viz. in exciting inflammation, it is evident that mercury, when it effects the system, must be productive of equally injurious changes upon the ulcerations in question and upon the general health, because it probably induces a more violent degree of inflammation, than exposure to cold or irregularities of diet.

Upon the same principle may be explained the fact noticed by all practical writers, that scrofulous sores, and scirrhus tumours, and cancerous affections, in certain stages of their progress, are much aggravated by preparations of mercury.

Dr. Blackall has shown, that, from the same cause, thickening of various membranes, particularly the pericardium and pleura costalis, has ensued,—and it is more than probable, that the aching pains which so often follow courses of mercury are owing to partial adhesion and thickening of the cellular membrane in contact with the fascia and extremities of the muscles. From Dr. Blackall's cases, too, there is reason to believe, that the inflammatory diathesis induced by mercury may continue for a considerable time after the mercury had been laid aside, and without any manifest signs. When individuals in this state are subjected to accidental exposure to cold, or indulge in irregularity of living, a violent and anomalous indisposition takes place, which is apt to terminate fatally, or to occasion a broken state of health.

Secondly,—Salivation, or an excessive and unusual flow of saliva, in general follows the increased action of the heart and arteries, and is preceded by a certain metallic taste in the mouth, and is attended with a peculiar odour of the breath, different from what is ever perceived in any natural disease.

When an increase of any of the ordinary secretions takes place during the course of inflammatory affections, the local complaints are relieved. But the ex-

cessive flow of saliva, in consequence of mercury, is accompanied with more or less local inflammation of all the parts within the mouth. In some cases, beside the ordinary ulceration of the gums, and loosening and final separation of the teeth, the tongue, moveable palate, &c. swell and ulcerate to a frightful degree.

Thirdly,—Emaciation so commonly follows a course of mercury, that several eminent physicians, about the beginning of last century, imagined that mercury had a natural tendency to destroy the fatty particles. The celebrated Van Swieten (§ 147) says, "All the pinguid humours are dissolved by the action of mercury, all the viscid are attenuated, and discharged out of the body, through various outlets, together with the virus adhering to them; therefore, when the patient's body is totally emaciated, &c.

This emaciation has generally been supposed to proceed, partly from the diminished appetite for food, and chiefly from the increased secretions and excretions; but as the observations of Dr. Blackall have proved that the serum of the blood passes off with the urine, it is more than probable that the excessive rapidity of the emaciation is occasioned by that circumstance.

Fourthly,—Debility, with an irritable state of the whole system, accompanies the emaciation, and of course occurs in various degrees in different individuals. The late Mr. Benjamin Bell, whose practical knowledge was so pre-eminent, comprehends in one short paragraph (page 188, of the second volume of his valuable *Treatise on the Lues Venerea*) an emphatic list of those effects of mercury. He remarks, that besides the usual symptoms of fever, "mercury is apt to excite restlessness, anxiety, general debility, and a very distressful irritable state of the whole system.

The consequences of this effect upon the nerves are different upon different subjects. In some, temporary delirium takes place—in others palsy or epilepsy supervene, and in many the memory and judgment are more or less permanently impaired. Instances, too, have occurred, where sudden death has supervened, apparently in consequence of a very trifling exertion or agitation. Mr. Pearson has well described such cases

under the title of Erethismus. He says, this state "is characterised by great depression of strength, a sense of anxiety about the precordia, irregular action of the heart, frequent sighing, trembling, partial or universal, a small, quick, and sometimes intermitting pulse, occasional vomiting, a pale contracted countenance, a sense of coldness; but the tongue is seldom furred, nor are the vital or natural functions much disordered."

It may be alleged, that these are extreme cases, and it must be admitted, that in many instances, those very violent effects do not follow. Delicate individuals, however, particularly those who have been accustomed to a sedentary life, and, therefore, in an especial degree, females, generally experience, after a course of mercury, various modifications of disordered feelings, communicating the idea of imaginary diseases, which unfit them for the duties of life, and render existence a burden.

Among the anomalous complaints arising from this cause, may be enumerated, impaired or capricious appetite for food, with all the ordinary symptoms of indigestion, particularly retchings in the morning, and flatulency—disturbed sleep, with frightful dreams—impaired or depraved vision—frequent aches and pains in different parts of the body—occasionally such sudden failure of strength, as if just dying, and at other times violent palpitations at the heart, accompanied with difficulty of breathing. Along with all these complaints, there is such a wretchedness of look, with such a propensity to brood over their miserable feelings, that it is extremely difficult to persuade the relations or the attendants of the patient that there is no serious indisposition. Indeed medical practitioners, who are not accustomed to weigh with mature deliberation all the complications of symptoms, are generally deceived in such cases, and involuntarily add to the alarm both of the unhappy sufferer and of the attendants.

"I might cite all writers on the *Materia Medica*," Doctor Falconar, in the paper alluded to, (page 110) says, "for authorities that the long continued and frequent use of mercury is not free from danger; that

among other ill effects, it tends to produce tremors and paralysis, and not unfrequently incurable mania. I have myself seen repeatedly, from this cause, a kind of approximation to these maladies, that embittered life to such a degree, with a shocking depression of spirits, and other nervous agitations with which it was accompanied, as to make it more than commonly probable, that many of the suicides, which disgrace our country, were occasioned by the intolerable feelings that result from such a state of the nervous system." To the truth of these remarks every unprejudiced physician who has been in extensive practice must bear testimony.

Such are the ordinary and well known effects of mercury when given in sufficient quantity to act upon the human body,—but in many cases other deviations from health ensue.

Of these, the most common are excessive diarrhœa, accompanied often with discharges of blood from the bowels. This is so apt to occur in some individuals, even though the mercury be administered by being rubbed upon the surface, that every writer upon lues venerea has mentioned this effect as one of the great obstacles to the cure of the disease.

The random experiments of speculative physicians upon patients labouring under scrofulous affections have proved, that in some cases ulcerations of the soft parts, and caries of the bones, originally arising from ill conditioned states of the system, are much accelerated in their progress by mercurial medicines. Of this many melancholy examples might be cited.—A boy about eleven years old had a sore on one cheek, with an affection of the jaw, which were attributed to the mismanagement of a dentist in extracting a carious tooth. A physician was consulted, (after the patient had suffered for some months,) who immediately prescribed a regular and full course of mercury. In a short time ulcerations in the throat appeared, the nose sunk, and one of the eyes was nearly destroyed, while the general health became so seriously injured, that death followed in a few months. Can it be for a moment doubted, that all

those morbid changes proceeded from the inflammatory action of the mercury.

Mental derangement, with eventual fatuity, has sometimes followed a course of mercury; and the probable reason why it does not do so more frequently, is, that the irritable state of mind which usually precedes actual derangement, commonly alarms the attendants, and leads to active precautionary measures.

Another consequence of the use of mercury is a very violent affection of the skin, originally hinted at Mr. Benjamin Bell—and more lately particularly described by Dr. Alley of Dublin, Dr. Spens of Edinburgh, and Mr. Pearson of London. It has been styled *hydrargyria* by Dr. Alley, *erythema mercuriale* by Dr. Spens, and *aczema mercuriale* by Mr. Pearson.

This eruption is usually preceded by heat and itching of the skin, a frequent pulse, and a white tongue. Most commonly it begins on the inside of the thighs, or about the flexures of the arms; and Mr. Pearson asserts, that it generally attacks the anterior parts of the body before the posterior. The parts affected are first of a faint red colour, and gradually the shade becomes deeper. The eruption proceeds by slow degrees over the whole surface, accompanied with an evident tumefaction of the skin, with great tenderness and heat, and most troublesome itchings.

Examined by a magnifying glass, the eruption appears distinctly vesicular, though the vesicles are so minute that they cannot be distinguished by the naked eye. These minute vesicles contain at first a pellucid fluid, and are each surrounded by a circular redness. From the great itching they are soon and inevitably ruptured, and discharge a thin acrid fluid, which irritates and excoriates the surface, and aggravates greatly the patient's sufferings. In this way the disease proceeds from one part to another, till the whole person becomes affected.

When the vesicles are first ruptured, the fluid which exudes, though thin, stiffens the linen, but

after a few days the discharge becomes thick, and emits a most offensive smell. As the different parts of the body are affected in succession, the exudation is thin in one part, and thick and adhesive in another. In a day or two the adhesive discharge ceases, the cuticle loosens, assuming first a pale brown colour, and then turning nearly black, when it separates in large flakes, leaving a faint redness on the exposed surface. Sometimes this disquamation is succeeded by a second or third, in the form of white scales, like farinaceous powder. In some cases the hair and even the nails have also separated along with the epidermis.

The duration of the disease varies from a fortnight to eight or ten weeks, or even longer. Dr. Alley has described three varieties, viz. by *hydrargyria mitis*, *simplex febrilis*, and *maligna*; and out of forty-three cases, which he witnessed within ten years, eight patients died. For a more particular account of this loathsome and distressing affection, the reader is referred to Dr. Spens' *Observations*, already quoted, Dr. Alley on *Hydrargyria*, Mr. Pearson, second edition, page 166, and Dr. Bateman, page 254.

These morbid effects of mercury do not seem to depend entirely upon the quantity or mode of preparation of that medicine which may be administered to the individual, for while it is an established fact, that the mildest preparations employed externally, if exhibited in too large doses, or continued for too great a length of time, are followed by some of the bad effects above enumerated, it is also notorious, that very small quantities of mercury have suddenly proved equally injurious. Thus, in a lady (whom the author attended some years ago along with his intelligent friend Dr. Farquharson) who had had such small doses of the blue pill, combined with opium, for three nights successively, that the whole quantity amounted to no more than five grains of the mass, salivation began on the fifth day, and notwithstanding every attention, the tongue and gums became swelled to an enormous degree, bleeding ulcers of the mouth and fauces took place, and such excessive irritability

and debility followed, that for nearly a whole month her life was in the utmost jeopardy. Every practitioner must have met with similar cases.

Another common consequence of a very small dose of mercury, is an excessive bowel complaint. In many individuals a permanent irritability of the stomach and intestinal canal has followed the accidental exhibition of a few grains of calomel.

Various other anomalous affections have been known to succeed the use of mercury. Thus, Dr. Falconar mentions, (*Memoirs of the Medical Society of London*, Vol. III. page 331,) that he once saw a dropsy of the breast produced by the use of a mercurial remedy for a redness in the face, which it effectually removed, but instantly produced a dropsy of the chest, terminating in death. Dr. Blackall has recorded similar cases.

In his observations on the hydrargyria, page 40, Dr. Alley asserts, that he had seen "that eruption appear over the entire body of a boy about seven years old, for whom but three grains of calomel had been prescribed ineffectually as a purgative."

Many other instances of violent effects from a small dose of mercury might be cited. Besides, the following seems to prove, that mercury may remain inert for a considerable time in the habit, and afterwards, by some inexplicable circumstance, may become active.

A lady, the mother of four children, in the twenty-eighth year of her age, had a bad miscarriage at the end of the fourth month. When the author was called, she was very much reduced from the loss of blood, and required the ordinary palliative remedies. Three days after the first visit she complained of a bad taste in her mouth, with soreness of her gums, and on the following day salivation took place. On inquiring into the circumstances of her previous history, it was learned, that four years before, she had had for a fortnight a course of the blue pill, which had only slightly touched the gums, and it was solemnly asserted, that she had never again taken any preparation of mercury, and had been in general good health.

The salivation was therefore at first attributed to some accidental cause, but when it was found to be proceeding with great violence, the medicines which the lady had been taking for the palliation of the complaints produced by the abortion, were carefully analyzed, from a suspicion that some mercurial preparation might have been mixed with them, but it turned out that they contained no mercury. The most anxious and unremitting attention, and the careful exhibition of all the ordinary remedies, which have been employed in similar cases, proved unavailing. The salivation, with the usual consequences of excessive emaciation, debility, and irritability, continued for above twelve months. Occasionally for a day or two it was checked, but alarming vomiting, with threatening sinking of the living powers, supervened.

It is universally acknowledged, that although the morbid effects of mercury may be induced very suddenly, and by very small quantities of the medicine, in certain constitutions, there are no marks by which such peculiarities of habit can be distinguished, and there is no method of arresting their progress.

The pernicious Effects of Mercury, in various Diseases.

In slight cases of indigestion, popular prejudices may perhaps have led practitioners to attribute the most usual symptoms of indigestion to a retention of bile, and to suppose that nothing else than calomel or the blue pill can afford them relief.

Hazardous as it always must be for any individual to oppose popular prejudice, it is incumbent on practitioners, in every instance of serious indisposition, to act according to their own deliberate judgment respecting the nature of the case, and not in compliance with the caprice of the patient. If there be evidence that the food has undergone a diseased change in the stomach itself, they ought absolutely to refuse sanctioning the use of mercury.

Those who are subject to occasional fits of dyspepsia, particularly those who have resided in hot climates, are accustomed to appeal to their own personal experience, as directly evincing the great utility of calomel in such complaint. But if those persons could attend impartially to the effects of that medicine, they would find, that its immediate operation is severe, and that it is followed for some time by uncomfortable feelings, and by an unusual susceptibility of derangement of the stomach and bowels. Perhaps, indeed, these very effects of calomel furnish in the majority of cases an antidote to the poison, for they compel the sufferers to adopt restrictions in diet, and other necessary precautions, which the immediate relief that would ensue from the operation of safer medicines might make them suppose to be useless.

Sometimes, it true, a single dose of calomel seems to remove in a few hours the oppressive feelings produced by indigestion, and this happens from the sudden discharge of the acrid contents of the stomach and duodenum. But a repetition of the same medicine, instead of being equally serviceable, generally aggravates the sufferings, inducing alarming fits of palpitation, or of faintings, or of such unaccountable feelings as lead to the dread of immediate death.

The author can truly affirm, that in several cases to which he has been called, where patients had been under a course of mercury for stomach complaints, the irritable feelings described in page 80, were in a much more violent degree than he ever witnessed from the same medicine given in other diseases. Nor is it wonderful that this should happen, since it is well known that one of the most common disorders occasioned by the use of mercury is indigestion.

When symptoms resembling those of dyspepsia arise from organic disease of the stomach, or through sympathy, from tubercles in the lungs, or altered texture of any other part than the liver, it may be much questioned whether any beneficial effects were ever produced by mercury. In almost all the instances of this kind which have fallen under the author's notice, the original affection was hurried on. Scirrhus of the

pylorus has been always considered to be quite incurable ; and tubercles of the lungs, and affections of the mesenteric glands, which seem by sympathy to produce dyspepsia, are as little under the control of medicine.

The chemical preparations most generally in use as a purgative in this country is the calomel. "It has," as Mr. Carlisle has remarked, "a direct purgative power, as a metallic salt ; and it operates powerfully on the large intestines.—It disorders the digestive powers of the stomach ; and, in debilitated persons, the frequent employment of it sinks the strength, and provokes hæmorrhoids."

It may be alleged, that in every complaint of infancy and childhood, calomel, within these few years, has been had recourse to, not only by practitioners, but by parents and nurses ; a practice which must have long ago been exploded, if bad effects had ensued.

This argument, when duly examined, will be found more specious than valid. The operations of many medicines, and particularly of metallic oxydes, are not easily ascertained, even by professional men, and far less can they be traced by ordinary observers. Although a dose of calomel may seem merely to affect the stomach or bowels, it may by its influence upon some latent disorder, such as tubercles in the lungs, or slight enlargements of the mesenteric or other internal glands, give activity to a disease, the source of which might otherwise have been removed by the natural powers of the constitution. The author has for several years been impressed with the conviction of this important truth.

That there are many individuals who have often with impunity taken calomel as a purgative, is not to be denied ; but it is equally true, that extremely irritability of the stomach and bowels, ulcerations of the mouth with caries of the teeth, dropsy, epilepsy, and various other modifications of disease, have followed the use of that preparation. In several cases the author has decidedly ascertained, that ulcerations of the villous coat of the intestines in infants and young children, have been induced by the frequent repetition of doses of that medicine.

Had these injurious effects of calomel upon delicate constitutions been hid from the rest of the profession, and known only to the author, some apology might be offered for the pertinacity with which that medicine is still prescribed; but so far is this from being true, that it may be confidently asserted, that no medical man of competent knowledge and observation could administer calomel as a purgative, in a hundred instances, without being convinced of its injurious tendency. Of this innumerable proofs could be cited, but it is sufficient to appeal to the testimony of professor Carlisle and of Dr. Blackall.

Mr. Carlisle has expressed himself very strongly on this subject. "That grave men should violently persist in large doses of calomel, and order these doses to be daily reiterated in chronic and debilitated cases, is passing strange. Men, starting into the exercise of the medical profession, from a cloistered study of books, and from abstract speculations—men wholly unaware of the fallibility of medical evidence, and unversed in the doubtful effects of medicines—may be themselves deluded, and delude others for a time; but when experience has proved their errors, it would be magnanimous, and yet no more than just, to renounce both the opinion and the practice."

Dr. Blackall's remarks being very specific, afford a still more satisfactory proof of the validity of the author's opinions. "It appears to me," he says, "that no accidents proper to the disease can account for all those fatal conversions to the head, which of late years have so frequently taken place in the fevers of children; and I have on some occasions been disposed to attribute them to excessive and repeated doses of calomel, which either not moving the bowels, as was expected, have given evidence of being absorbed, or, on the other hand, have purged too violently, and been succeeded by diarrhoea without bile, and a prostration of strength, from which the little patient has never risen. Its less severe effects are sometimes of no slight importance: a slow and imperfect recovery, a languid feverish habit, and a disposition to scrofula.

"It need not surprise us, that, in children, this disposition, particularly if so excited, should often be formed on the part most liable to every impression, and most actively developing itself, the brain ; since, even in adults, mercury is inimical to the nervous system. Parents have something to regret, who are so perpetually giving calomel to their children, without any distinction or care, as a common domestic remedy. And it is difficult to conceive on what view of the subject even practitioners proceed, who indulge in its use with less scruple than ever, with less caution as to management, whilst they are observing and lamenting the daily increasing ravages of hereditary scrofulous disorders. It can hardly be in the present day from want of calomel, that such a taint is propagated."

Small doses of calomel may seem useful in bowel complaints, when in reality the amendment is to be attributed to the regulation of diet, and to the opiates which are commonly recommended at the same time.*

The author can confidently declare, that he has seen a number of infants, and very young children, destroyed, as he positively apprehends, by the indiscriminate use of calomel for complaints of the bowels.

In dropsies there is either increased activity of the exhalents, or some altered condition of the circulating mass, which renders it acrimonious or stimulating when exhaled, it is perfectly obvious, that all medicines capable of aggravating such causes ought to be most carefully avoided. And since it is clearly established, that preparations of mercury have a direct tendency both to increase the action of the arterial system, and to alter the constituent parts of the blood, they must be regarded as most especially inadmissible.

The author has never met in consultation with any practitioner of discernment and experience, who has not admitted the fact, both that mercury and squills frequently fail to give relief in cases of general dropsy ; and also, that in many instances their exhibition

* This is the case in all diseases.

has been succeeded by a rapid and mortal aggravation of the symptoms. If any reliance can be placed on the validity of the observations in the preceding pages, the reasons for these failures may be easily comprehended.

Were any further illustrations required, the author could state several distressing cases to which he has been called, even since the publication of Dr. Wells' and Dr. Blackall's valuable hints. The patients alluded to, while under a course of mercury and squills, had been unexpectedly seized with alarming breathlessness, or violent pain in the side, or sudden delirium, with a sharp pulse, for which they had been very properly otherwise treated, while the mercurial medicines had been discontinued. But although a rapid amendment had followed this change of treatment, the use of the mercury had been resumed whenever the alarm had fairly subsided and a hopeless recurrence of all the bad symptoms had ensued.

Although the consideration may be humiliating, it is too instructive to be passed over, that the very reason urged by practitioners of deserved eminence for the employment of mercury in hydrocephalus, are not unfrequently in direct contradiction to their own explanation of the nature of the disease. A late writer on this subject, of high reputation, for example, attributes hydrocephalus acutus to increased action of the arteries, with at the same time venous congestions within the cranium, and recommends mercury for the purpose of substituting a new action. But the most ample proofs, it is presumed, have been brought forward in the preceding pages, to show that mercury increases the arterial action, that it alters the nature of the circulating mass, and that it impairs the energy of the nervous system—and therefore its operation must tend directly to aggravate those alleged causes.

On this subject the author can express his sentiments with more than usual confidence, having from his earliest years had innumerable opportunities of attending to the effects of mercury in this disease.

whatever through the bowels could be produced, although antimonials, and jalap, and gamboge, and glysters, were employed as auxiliaries.

In reasoning upon this subject, it is extremely difficult to explain, in the first place, the safety with which a hundred and thirty-three grains of calomel could be given in this climate, within sixty hours, to a patient of seven years of age.

It has been shown, that the action of mercury tends, by exciting inflammation and effusion, to produce thickening of various membranes, particularly of the pleura—and several instances of that kind are recorded by Dr. Blackall, where the fact was proved by the appearances on dissection. This effect of mercury has been long remarked by the author, and it suggested to him, many years ago, a practical inference of some importance.

Many practitioners imagine that mercury is a specific in the *venereal disease*. But this is not the case. Indeed it is very questionable whether it has any other than a deleterious effect in this disorder.

This remark is exemplified in the experiments lately made in England by the head surgeon to the army. It is stated, that about two thousand patients were cured without mercury, simply by abstinence and rest, or rather by the natural efforts of the constitution; whereas only a few more were cured by mercury. Thus it is evident, that that mineral exerts little or no influence in the removal of syphilis, and that physicians impute to art, or rather to a dangerous medicine what is due to nature.

When we reflect that in fevers mercury is given with little scruple, we are led to remark, that "within the last thirty years either a sudden revolution in the laws of the human machine had taken place, or that medical men had ceased to reason on the operations of medicine."

Every practitioner who has paid the least attention to the effect of mercury in fevers, must be convinced of its immediate and subsequent injurious effects. No further proof need be adduced than is found in the preceding pages; it is shown, that it produces an aug-

mentation of feverish and inflammatory symptoms; that from the time that the influence of mercury becomes evident, the general strength declines rapidly, a dangerous emaciation, debility, with an irritable state of the whole system, also paralysis, epilepsy, loss of senses, and many other distressing and dangerous complaints.

Who then in the possession of his reason would think of exhibiting mercury in fevers. But, strange as it may appear, it is universally administered, and constitutes the chief medicine in the *materia medica*. We hope, however, that those who see its pernicious and fatal effects portrayed in this work, will in future flee from it as from the face of the most poisonous serpent. It would require years to give an account of the number of deaths it has occasioned.

ON THE MERCURIAL DISEASE, BY DR. A. MATHIAS.

The mercurial disease will be found to attack the bones, the periosteum, the tendons, the tendinous fascia, and in the joints, the cartilages and the ligaments, by the extension of the specific diseased action, and not merely by the spreading of a mercurial ulcer in the neighbourhood; for indeed it very seldom happens that the mercurial disease discovers itself in them in a state of ulceration.

If what I have now observed be true, the extent of the mercurial disease is rather greater than that of the venereal. When any of these parts take on the mercurial disease, the irritation must always be considered as a general and not as a local affection; except the complaint commenced there locally in a venereal ulceration. The irritation will commonly discover itself by pain, by tumour, and by inflammation, and very often without there having been any one previous symptom of the *lues venerea*. It is however by these symptoms commencing during a course of mercury and resisting all the efforts made by that medicine to cure them, that we are led to believe that they entirely depend on the mercurial specific irritation.

In no instance under his observation has that medicine ever proved successful, and he fully agrees with Dr. Blackall in opinion, that on many occasions the injudicious use of that mineral has actually occasioned the disease. To his certain knowledge, affections of the stomach and bowels have been converted into hydrocephalus, by the use of mercury prescribed on the presumption, that the patient already laboured under that disease.

Upon what principle mercury has been so universally employed in all cases of enlarged ovarium, notwithstanding the variety of age, constitution, and state of general health of the individuals affected with it, no satisfactory explanation has hitherto been given.

Analogical reasoning is little in favour of the practice. Hydatids have never been cured by mercury, even when situated in parts of the body where that mineral could exert a ready influence. As to accumulations within the proper coat of the ovary, they are too isolated and unconnected with the absorbent system, to be affected by medicines capable of increasing the actions of the lymphatics.

Far less can experience be pleaded in justification of this practice, for the author speaks within bounds, when he avers, that he has known mercury employed in some hundred cases of diseased ovarium, without its having proved useful in a single instance. A few apparent exceptions have been reported to him by old pupils; but from the uniform result of all the cases which have been under his own notice, he is induced to believe, that in those alleged exceptions, the disease had not been enlargement of the ovary.

But while mercury can be of no utility whatever, it may, and certainly often has produced irreparable injury, not only upon the general constitution, but also in all cases where indurations of portions of the ovary are complicated with serious collection. Instances of this kind every now and then occur, and cannot be distinguished till their progress towards cancerous ulceration be so far advanced as to become manifest. A most impartial attention to many of

those cases has convinced the author, that indurations, which might have remained for years without inconvenience to the patient, have been forced into morbid activity by a course of mercury.

In some parts of America, calomel has been employed for many years, as the chief remedy, in cynanche trachealis, and it had been repeatedly prescribed in this city, by medical men who had practised in the West-Indies, before the author could be persuaded to sanction its use. He was informed that the method of exhibiting it, was to give to a child of three or four years old, five grains evening and morning, and that it cured the disease without producing any sensible operation. Such an account held out no inducement for trying so hazardous a remedy, more especially since he knew that the practice, under the direction of the late Dr. Wright, and some other physicians, who had resided in hot climates, proved so unsuccessful, that on more than one occasion, two children in the same family, treated according to this plan, died within a few days of each other.

About sixteen years ago, however, in consequence partly of the urgent representations of an old pupil, (the late Dr. J. Anderson,) and chiefly because the ordinary remedies frequently proved uncertain, he was induced to give calomel a fair trial; and he can solemnly assert, that according to all that he has seen, no relief whatever has been afforded by that medicine, unless copious dark green coloured stools, like boiled spinage have been discharged, and that it requires large and repeated doses of the medicine to produce that effect. For example, to a child of seven years old, one hundred and thirty-three grains were given within sixty hours.

These circumstances led to the conclusion, that in this part of the world, at least, wherever calomel has seemed to cure croup without affecting the bowels, the symptoms had not been those of that disease, but of the *spurious croup*; and this opinion is confirmed by the fact, that in the only cases in which the medicine has failed under the author's direction, (being in the proportion of four out of fifty,) no evacuation

whatever through the bowels could be produced, although antimonials, and jalap, and gamboge, and glysters, were employed as auxiliaries.

In reasoning upon this subject, it is extremely difficult to explain, in the first place, the safety with which a hundred and thirty-three grains of calomel could be given in this climate, within sixty hours, to a patient of seven years of age.

It has been shown, that the action of mercury tends, by exciting inflammation and effusion, to produce thickening of various membranes, particularly of the pleura—and several instances of that kind are recorded by Dr. Blackall, where the fact was proved by the appearances on dissection. This effect of mercury has been long remarked by the author, and it suggested to him, many years ago, a practical inference of some importance.

Many practitioners imagine that mercury is a specific in the *venerical disease*. But this is not the case. Indeed it is very questionable whether it has any other than a deleterious effect in this disorder.

This remark is exemplified in the experiments lately made in England by the head surgeon to the army. It is stated, that about two thousand patients were cured without mercury, simply by abstinence and rest, or rather by the natural efforts of the constitution; whereas only a few more were cured by mercury. Thus it is evident, that that mineral exerts little or no influence in the removal of syphilis, and that physicians impute to art, or rather to a dangerous medicine what is due to nature.

When we reflect that in fevers mercury is given with little scruple, we are led to remark, that “within the last thirty years either a sudden revolution in the laws of the human machine had taken place, or that medical men had ceased to reason on the operations of medicine.”

Every practitioner who has paid the least attention to the effect of mercury in fevers, must be convinced of its immediate and subsequent injurious effects. No further proof need be adduced than is found in the preceding pages; it is shown, that it produces an aug-

mentation of feverish and inflammatory symptoms; that from the time that the influence of mercury becomes evident, the general strength declines rapidly, a dangerous emaciation, debility, with an irritable state of the whole system, also paralysis, epilepsy, loss of senses, and many other distressing and dangerous complaints.

Who then in the possession of his reason would think of exhibiting mercury in fevers. But, strange as it may appear, it is universally administered, and constitutes the chief medicine in the *materia medica*. We hope, however, that those who see its pernicious and fatal effects portrayed in this work, will in future flee from it as from the face of the most poisonous serpent. It would require years to give an account of the number of deaths it has occasioned.

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The appearance of the mercurial disease in these parts so much resembles the venereal disease, that we must always take into consideration the quantity, the quality, and the effects of the mercury which was previously given, to enable us to form a right judgment of these cases. The symptoms, however, are not so absolutely alike in both diseases that there are no shades of difference: the symptoms, for instance, whether of pain, of tumour, or of sore, possess the moveable fluctuating disposition which I have so often mentioned, when speaking of this disease in the groin and in the throat.

The mercurial disease in the bones mostly extends no further than in producing a pain in them. This occurs many times strictly in those parts which are commonly affected by the venereal virus, and these pains will come on principally at night; but in many cases the disease will extend to the joints of both extremities and even to the smaller joints. The hip joint has sometimes been the seat of this disease, a circumstance which we shall find described very accurately by Mr. John Howard in his work on the venereal disease.

The bones of the head are often the seat of the mercurial irritation, and the patient is subject to violent head-aches. These pains, in many cases, are as troublesome during the day as in the night, but they shift very frequently from one part to another, last for a week or two, disappear, and then return again. The patients sometimes supposed them to be a rheumatic affection.

The mercurial irritation occasionally proceeds to such an extent in the bones as to produce an affection of them resembling the disease called the mollities ossium, in which the bones are liable to fracture on every trifling accident. Mr. John Howard makes mention of this affection, and he concludes that there is then an absorption in part of the earthy matter of the bones; a circumstance not unlikely to take place when the mercurial irritation is very violent in these parts. The teeth will often drop out from the destruction of the gums, and an absorption takes place

of their aleolar processes from this same cause. The venereal virus, most certainly, at times also renders the bones very friable, but it generally first makes them carious. This is not the case with mercury, when it produces the kind of disease which I have just observed.

Few bones in the body are exempt from the possibility of a venereal infection, and, as far as my observations have reached, I may assert that the mercurial irritation is equally as extensive in its effects.

When the bones and cartilages of the nose are affected by the venereal virus, the complaint is then called a venereal ozæna; and, from the spongy and delicate structure of these bones, the mischief done by it is often sudden and irreparable. The mercurial ozæna is likewise a complaint not unfrequent. I have seen some cases of it, and have observed that its effects are as mischievous and as sudden as those of the venereal ozæna. I have known the mercurial ozæna to commence in a case of the mercurial ulcerated throat, when there had not been the least appearance of a venereal ulcer in the part.

Perhaps in no instance is it of more importance, than in this state of the disease, to distinguish accurately and speedily, when the case is doubtful, on what specific irritation it depends. I have seen the bones of the palate, the scheiderian membrane, the cartilages and bones of the nose, all confounded in one diseased mass. I have also seen several cases of the mercurial disease from hot climates, in which the complaint has first commenced in the nose, and, after having produced considerable destruction there, the ulcerative process has crept up on each side of the superior maxillary bones, through the cheeks, in an irregular angular direction, till at last the miserable patients have found in their deaths the only remedy for their unhappy sufferings. Some of these cases have been accounted incurable instances of the lues venerea; and others have been called the lues venerea terminating in cancer; when, from their whole history, I had little doubt of their having been first venereal, and then finally and truly mercurial. In

many of them I had opportunities of observing the moveable disposition of the ulceration, which is so characteristic of the mercurial affection.

Mercury appears to destroy the energy of the nervous system, producing weakness, tremors, palsies, fatuity, epilepsy, and mania, the most dreadful of all its bad consequences; and indeed no part of the body is exempt from its deleterious effects. The patient becomes hectical, has a small quick pulse, and there is often a tendency to a colliquation on the skin and bowels, and a wasting atrophy of the flesh; his countenance is pale and wan, his nights bad, his appetite impaired, his strength much reduced, and he complains of general irritability, with head-ach and flying pains in his bones, especially on the approach of bad weather, of rain, of frost, or of north-easterly winds.

CAUTION TO PARENTS ON GIVING THEIR CHILDREN POISON TO KILL WORMS.

Not long since, in a town in the State of New-Hampshire, a child was taken suddenly sick, after eating bread and milk for breakfast. A doctor was called in, who said, that the disorder was caused by worms, and gave a dose of calomel, which threw the child into violent fits, and in a short time the neighbours were called in to see the child die: but after nature had struggled for about one hour against this enemy to life, it caused vomiting, and the child threw up the poison with its breakfast. A dog being by, ate what was vomited, and died in consequence, in about four hours after. The child got well.

Dr. James Mann, who was Hospital Surgeon to the army of the United States, in the years 1812, 1813, and 1814, relates the following case:—He says a man at Porchester “was bled eight ounces, and within twenty-four hours took one hundred grains of calomel, one hundred grains of jalap, two ounces of castor oil, and four ounces of sulphate of soda.” He adds, “this man died suffocated while walking his room.”